

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

**PCT****NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

(PCT Rule 71.1)

To:

Holmes, Matthew Peter  
MARKS & CLERK  
Sussex House  
83-85 Mosley Street  
Manchester M2 3LG  
GRANDE BRETAGNE

**- 2 SEP 2004**

Date of mailing  
(day/month/year)

30.08.2004

Applicant's or agent's file reference  
MHP89166PWO

**IMPORTANT NOTIFICATION**

International application No.  
PCT/GB 03/03145

International filing date (day/month/year)  
21.07.2003

Priority date (day/month/year)  
20.07.2002

Applicant  
COUNCIL FOR THE CENTRAL LABORATORY OF THE...et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

**4. REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international  
preliminary examining authority:



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized Officer

Witzig, A

Tel. +49 89 2399-5937



# PATENT COOPERATION TREATY



## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

Applicant's or agent's file reference MHP89166PWO		<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)
International application No. PCT/GB 03/03145	International filing date ( <i>day/month/year</i> ) 21.07.2003	Priority date ( <i>day/month/year</i> ) 20.07.2002
International Patent Classification (IPC) or both national classification and IPC G01N21/53		
Applicant COUNCIL FOR THE CENTRAL LABORATORY OF THE...et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 6 sheets, including this cover sheet.  
  
☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
  
 These annexes consist of a total of 3 sheets.

- This report contains indications relating to the following items:
  - I ☒ Basis of the opinion
  - II ☐ Priority
  - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - IV ☐ Lack of unity of invention
  - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - VI ☐ Certain documents cited
  - VII ☐ Certain defects in the international application
  - VIII ☐ Certain observations on the international application

Date of submission of the demand  06.02.2004	Date of completion of this report  30.08.2004
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Hoogen, R  Telephone No. +49 89 2399-2192 

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB 03/03145

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-9 as originally filed

**Claims, Numbers**

1-20 filed with telefax on 16.08.2004

**Drawings, Sheets**

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB 03/03145

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 20

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 20 are so unclear that no meaningful opinion could be formed (*specify*):

**see separate sheet**

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	1-19
	No: Claims	
Inventive step (IS)	Yes: Claims	1-19
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-19
	No: Claims	

**2. Citations and explanations**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB 03/03145

---

see separate sheet

**Re Item III**

**Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

In claim 20 the attempt is made to define the claimed subject-matter by a reference to the drawings. It is not clear which combination of technical features shall be thereby specified (Rule 6.2(a) PCT; PCT-Guidelines Section IV, III-4.10).

**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

GB 2 212 261 A (called D1 in the following) describes an optical water contaminant meter comprising:

- a sample holding means (cf. figure 1, ref. sign 11) arranged to receive light from a light source (14);

- a detector (22);

- first light selection means (16,18) arranged to selectively allow transmitted light, i.e., light of a predetermined first wavelength passing from the sample holding means in a direction substantially parallel to the direction of the incident light, to pass to the detector (cf. page 2, first para.); and

- second light selection means (17,19) arranged to selectively allow scattered light, i.e., light of a predetermined second wavelength passing from the sample holding means in a direction substantially transverse to the direction of the incident light, to pass to the detector (cf. page 2, first para.), wherein transmitted and scattered light are multiplexed on to a common optical fiber (21) and demultiplexed at the detector.

The apparatus according to claim 1 differs from this disclosure in that *"the first and second light selection means are operable simultaneously such that when the first light selection means is adjusted to pass light to the detector, the second light selection means is adjusted to prevent passage of any light to the detector, and vice versa"*, thereby avoiding the complex multiplexing/demultiplexing of D1.

A technical problem may therefore be seen in simplifying the apparatus of D1.

The solution proposed in claim 1 is neither anticipated nor fairly suggested in D1.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB03/03145

The apparatus according to independent claim 1 and dependent claims 2-19 is therefore considered to meet the requirements of the PCT with respect to novelty and inventive step (Articles 33(2) and (3)).

**Further remarks**

**1. Claims**

- 1a. Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, with those features known in combination from the prior art (document D1, see Item V above) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
- 1b. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

**2. Description**

- 2a. The description is not in conformity with the claims (Rule 5.1(a)(iii) PCT).
- 2b. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the document D1 is not identified in the description nor is the relevant background art disclosed therein discussed.
- 2c. The following reference signs are mentioned in the description, but, contrary to Rule 11.13(I) PCT, do not appear in the drawings: 6a (page 6, second para.), 16 (page 7, last para.), 18a, 18b (page 8, second para.).

\*\*\*\*\*

16-08-2004

GB0303145

16/08/2004 15:53 00000000

MARKS AND CLERK

10/521 484

PAGE 05/07

DT15 Rec'd PCT/PTO 20 JAN 2005

1

CLAIMS

1. An optical apparatus comprising a sample holding means, a detector and first and second light selection means, the sample holding means being arranged to receive incident light from a light source, the first light selection means being arranged to selectively allow light that passes from the sample holding means in a direction substantially parallel to the direction of the incident light to pass to the detector, and the second light selection means being arranged to selectively allow light that is emitted from the sample holding means in a direction substantially transverse to the direction of the incident light to pass to the detector, wherein the first and second light selection means are operable simultaneously such that when the first light selection means is adjusted to pass light to the detector, the second light selection means is adjusted to prevent passage of any light to the detector, and vice versa.

2. An optical apparatus according to claim 1, wherein the first light selection means comprises a shutter located between the sample holding means and the detector, the shutter being moveable between a first position in which the light that is substantially parallel to the incident light passes through the shutter to the detector, and a second position in which the light that is substantially parallel to the incident light is prevented from passing to the detector.

3. An optical apparatus according to claim 2, wherein the shutter is provided with a reflective surface arranged such that when the shutter is in the second position the light that is substantially parallel to the incident light is reflected from the shutter.

4. An optical apparatus according to claim 3, wherein the shutter is arranged to reflect the light back into the sample holder.

5. An optical apparatus according to claim 3, wherein the shutter is arranged to reflect the light to a second detector or to a light trap.

BEST AVAILABLE COPY

AMENDED SHEET



6. An optical apparatus according to claims 4 and 5, wherein the reflective surface of the shutter is moveable and may be adjusted to either reflect the light back into the sample holder, or to reflect the light to the second detector or to the light trap.
7. An optical apparatus according to any one of claims 2 to 6, wherein the second light selection means comprises one or more light guides.
8. An optical apparatus according to claim 7, wherein the one or more light guides are provided with light guide shutters moveable from a first configuration in which light is allowed to enter the one or more light guides, and a second configuration in which light is substantially prevented from entering the one or more light guides.
9. An optical apparatus according to claim 8, wherein the one or more light guides comprise one or more pentaprisms.
10. An optical apparatus according to claim 8, wherein the one or more light guides comprise one or more fibre optic cables.
11. An optical apparatus according to any one of claims 8 to 10, wherein the shutter and the light guide shutters are provided with operation means which allow them to be operated simultaneously, such that as the shutter is moved from a first position to a second position, thereby preventing light substantially parallel to the incident light from passing to the detector, the light guide shutters move from their second position to their first position, thereby allowing light substantially transverse to the incident light to pass to the detector, and vice versa.
12. An optical apparatus according to claim 11, wherein the operation means comprises a mechanical connection.
13. An optical apparatus according to any preceding claim, wherein the apparatus is provided with one or more wavelength dependent optical filters which may be used

to selectively transmit to the detector light at the wavelength of the incident light or light at a fluorescence wavelength.

14. An optical apparatus according to claim 13 when dependent on claim 11, wherein the one or more wavelength dependent optical filters are mounted in a holder which may be connected to the operation means, such that movement of the shutter and the light guide shutters also moves the holder, thereby positioning an appropriate wavelength dependent optical filter over the detector.

15. An optical apparatus according to claim 14, wherein the holder is provided with an opening which does not contain a wavelength dependent optical filter.

16. An optical apparatus according to any preceding claim, wherein the detector is a photo-multiplier tube.

17. An optical apparatus according to any preceding claim, wherein the sample holding means comprises a housing dimensioned to receive a cuvette.

18. An optical apparatus according to claim 17, wherein areas of upper and lower surfaces of the housing are opaque such that light travelling in a direction which is not substantially parallel to the direction of the incident light is prevented from passing via the first light selection means to the detector.

19. An optical apparatus according to claim 1, wherein the second light selection means comprises one or more light guides.

20. An optical apparatus substantially as hereinbefore described with reference to the accompanying drawings.

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☒ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**